dren minor functional neuroses are evident. Habit spasms, nocturnal enuresis, recurring headaches, nervous diarrheas, are frequent with them. In a large number valvular disease is present. Some observers have claimed that night-terrors, and more particularly day-terrors, are epileptic in their nature, and that the condition is to be considered as a form of *petit-mal.* This is not the view held by the author. He believes that, inasmuch as these patients do not show any tendency to attacks of major epilepsy, and, furthermore, are so readily relieved of their symptoms by appropriate treatment, that the relation to epilepsy must be but very slight, if any relationship at all exists. In some cases there seems but a very narrow line existing between day-terrors and some forms of insanity. The author's summary of impressions—for thus far in the study of this affection it is only possible to have impressions—is that it is a paroxysmal psychoneurosis allied to, but not identical with, epilepsy on the one hand and hysteria and insanity on the other. The prognosis is good. The most important part of treatment is the removal of any exciting cause. Since a chronic intestinal catarrh is apt to be present, it should be relieved. Potatoes, pastry and the sugars are to be excluded from the diet. Thread worms or other intestinal parasites must be removed. Potassium citrate and the bromides are useful, and a regular mode of life with healthful distractions and non-exciting sports will usually aid materially in the treatment. JELLIFFE.

54 SUR LES ATROPHIES MUSCULAIRES PROGRESSIVES D'ORIGINE MYELOPATHIQUE (On Progressive Muscular Atrophy of Myelopathic Origin. G. Etienne (Nouvelle Icon. de la Salpêtrière, Sept., Oct., 1899).

G. Etienne reports six cases of muscular atrophy of myelopathic origin. These cases are of interest because they depart in some details from the classic description of this disease, but yet they bear such a general resemblance to one another that they evidently belong to the same group. In a general way progressive muscular atrophy of myelopathic origin, or anterior chronic poliomyelitis, or Duchenne-Aran disease, is characterized clinically by the following six points: 1. Onset in the upper extremities. 2. Fibrillary tremor. 3. Reaction of degeneration. 4. Absence of heredity. 5. Commencement at a late adult age. 6. Chronic evolution, about four or five years. The anomalies observed in these cases were: 1. Rapidity of evolution. 2. Early commencement. 3. Modes of onset. 4. Rare complications, as arthropathies. 5. Presence of heredity. Each of the cases quoted illustrates one of these varieties. In the first case, instead of the usual chronic evolution, that is, from three to six years, the whole process was completed in eighteen months after the first manifestations of the disease. In the second case, instead of the usual age, that is, from forty to sixty years, the patient was twenty-four years old at the time of the first symptoms of the disease, which were fatigue conditions in the small muscles of the hand. This patient had had an infantile paralysis involving the right leg. As a rule, the disease begins in the small muscles of the hand, generally the right. The thenar and the short abductor of the thumb are commonly affected first. In the third patient the deltoid and the periscapular muscles showed the first symptoms. The fourth patient had infantile paralysis in the first year of life. The beginning of the present process was in the paralyzed leg and in the muscles of the forearm. The fifth case showed a hereditary history of myelopathic affections. This is very rare in this form of muscular atrophy, but common in myopathic varieties. The sixth case showed the rare condition of arthropathy of the shoulder joint, and also various trophic disturbances. In this latter case differential diagnosis between syringomyelia and muscular atrophy had to be made.

Although all of these cases show departures from the classic type of the disease, they are of insufficient importance to be separated into different classes. They all belong pathologically to the same group of diseases. The lesions found post-mortem in cases one and six are probably the foundations of the changes found in all, viz.: the alterations in the large cells of the anterior horn. The etiological factor in the first location of the process is essentially overuse of the muscles. The lesions are not, however, confined to the anterior horns alone. In cases one and five the glosso-laryngeal involvement points to a bulbar process. There exists then a morbid series characterized by muscular progressive myelopathic atrophy, progressive labio-glosso-laryngeal paralysis and progressive nuclear ophthalmoplegia—three types of the same disease characterized pathologically by the same lesions of the nervous apparatus in different stages. Each can exist alone or develop by extension into one of the other types. They are essentially, however, the same disease. SCHWAB.

ANATOMY AND PHYSIOLOGY.

55 STEHEN ALLE GANGLIENZELLEN MIT DEN BLUTGEFÄSSEN IN DIRECTER VERBINDUNG (Are All Ganglion Cells in Direct Connection with Blood vessels)? Albert Adamkiewicz (Neurol. Centralbl., 18, 1900, p. 2).

The author begins with the following hypothesis: Within the central nervous system the capillary circulation of the arteries belongs to the ganglia and is determined by their number and size.

From the standpoint of physiology he considers such hypothesis fully borne out, and argues thus: There is no organ whose function is not under the control of the nerves and no nerves which are not under the command of ganglion cells. The totality of organs makes up the body, the totality of nervous functions the body's life; hence, ganglion function is life. But life, as the supreme expression of material force, demands for its conservation the maximum quantum of the energizing fuel at the disposal of the body—that is, the nutritive elements or, in other words, blood. As A. did not believe that ganglion cells, not being simple tissue elements but independent organs of the most important and complicated sort, could derive their nutrition in the same elementary fashion as do connective tissue and muscle cells, namely, through a plasma stream which oozes from the finest capillaries of end arteries and makes its way through the tissues, he was led to search anatomically for a special and highly developed apparatus subserving this function.

56 Unfortunately for the complete verification of his theories his anatomical researches had to be limited, in the human, to a certain type of ganglion cells—those of the great intervertebral ganglia of the brachial plexus. These he found not to be bathed in a free plasma which reached them in the same diffused current that it did the other tissue elements. On the contrary they received their nutrient stream through the finest sort of vessels, which branched off from the arterial blood-capillaries and formed a sort of capillaries of the second order—vasa serosa—which gave passage to the fluid elements of the blood, but to none of the corporeal. One of these minute vessels would make its way to the ganglion cell, spread out and envelop the cell like a glove, narrow down on the further side into an outlet and then pursue